Lead in Drinking Water in Schools

What is the Hazard or Problem:

Lead causes adverse developmental effects in children and is classified as a probable human carcinogen. There is a concern that schools on public drinking water may have elevated lead levels due to contact with plumbing materials in the school that may contain lead. This may increase children's possible exposure to lead in drinking water.

The Solution:

Educate superintendents and staff to evaluate their schools to reduce student exposure to lead through drinking water. This evaluation may include a plumbing survey, removing drinking water fixtures and fountains not meeting EPA standards, developing a general testing strategy, and the collection and testing of water samples. In guidance issued pursuant to the Lead Contamination Control Act of 1988, EPA recommended an action level for lead in drinking water in schools of 20 ppb (ug/L). If elevated lead levels are found, the school should implement short-term and long-term control measures. These measures may include the use of bottled water, replacement of piping and fixtures, or treating the incoming water to lower lead exposure. Follow-up sampling should be conducted to evaluate the effectiveness of the control measures.

Applicable Regulations/Consensus Standards:

- Massachusetts Drinking Water Regulations: 310 CMR 22.06B – Lead and Copper Standards
- Lead Contamination Control Act of 1988 (LCCA), PL100-572, Nov. 1, 1988

Who in your Town or School Can Help:

- School Facilities/Engineering Department
- Local Water Department
- Local Plumbing Inspector
- Local Health Department

Who to contact for free Government or Other Assistance with the Problem:

- MA DEP – Drinking Water Program at 617-292-5770 (Program.director-DWP@state.ma.us)
- EPA New England - Drinking Water Program, (www.epa.gov/region1/eco/drinkwater/index.html)
- EPA Safe Drinking Water Hotline at 1-800-426-4791, (www.epa.gov/safewater)
- Massachusetts Department of Education
- Massachusetts Department of Public Health

Further Reading (include Electronic Resources if Applicable):

- EPA document on Lead in Drinking Water in Nursery Schools and Day Car Centers (http://www.epa.gov/safewater/lcrmr/nursery.pdf)
- EPA document on Lead in Drinking Water in Schools (http://www.epa.gov/safewater/consumer/leadinschools.html)
- EPA document on Lead in Drinking Water: Schools and Day-Care Centers (http://www.epa.gov/safewater/lead/schoolanddccs.htm)
- EPA Fact Sheet: Lead in Drinking Water Coolers (http://www.epa.gov/ssafewater/consumer/lead_app-a_86-95.pdf)
- Lead Contamination Control Act of 1988, PL 100-572, 42 USC 300j-21 t0 300j-26. (www.gpoaccess.gov) or (www4.law.cornell.edu/uscode/42/ch6AschXII.html)
- List of laboratories certified by Massachusetts DEP: (http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf)
- DEP/DWP Fact Sheet on Lead and Copper Recommendation to Reduce Lead Levels in School Drinking Water

ATTACHMENT 1

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
FACT SHEET ON LEAD AND COPPER

What is the Lead and Copper Rule?

On June 7, 1991 the U.S. Environmental Protection Agency (EPA) set a new nationwide standard to lower the level of lead in drinking water. The goal of the new standards is for at least 90% of monitored household drinking water taps to have lead levels of 15 parts per billion (ppb) or less. It is important to note that the lead comes from the corrosion of plumbing materials such as lead pipe that was used prior to about 1940, 50%lead solder that was used until 1986, and some plumbing fixtures that are made of brass that contains lead. For that reason the new rule establishes treatment techniques requirements for lead that include corrosion control treatment, public education programs, and, if necessary, lead service line replacement. The sampling schedule communities must follow is shown below:

1. Systems serving more than 50,000 persons began January 1, 1992.
2. Systems serving between 3,300 and 50,000 persons began July 1, 1992.
3. Systems serving less than 3,300 persons began July 1, 1993.

The number of samples taken to determine compliance is determined by the population served. The regulation also specifies where, when and how the samples are to be taken.

What are the Health Effects of Lead?

Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery porcelain and pewter, and water. Lead can pose a significant risk to your health if too much of it enters your body.

Lead builds up in the body over many years and can cause damage to the brain, red blood cells and kidneys. The greatest risk is to young children (especially under age 6), pregnant women, and their fetuses. An amount of lead that won't hurt adults can slow down normal mental and physical development in the growing bodies of children. In addition, a child at play often comes into contact with sources of lead contamination like dirt and dust. If a child puts dirty fingers into his mouth (as most children do), some lead may be absorbed into the child's system. It is important, therefore, to wash children's hands and toys often and try to make sure they only put food into their mouths.

Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. EPA estimates that lead from drinking water can make up 20 percent or more of a person's total exposure to lead.

What is the Significance of the 15 ppb Action Level for Lead?

The action level of 15 ppb for lead was not derived as a health effects threshold level. If a community does not meet the action level in at least 90% of the samples taken it must take action to reduce the corrosivity of the water delivered to consumers to reduce the amount of lead coming from plumbing materials to acceptable levels.